

Eating in Restaurants: A Risk Factor for Foodborne Illness? Findings from FoodNet to Be Explored by EHS-Net

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Background: Over 80% of Americans eat out at least once per week, and 46% of the U.S. food dollar is spent on food away from home. The Centers for Disease Control and Prevention's Foodborne Diseases Active Surveillance Network (FoodNet) provides a unique opportunity to investigate the potential relationship between foodborne illness and consumption of food outside the home.

Methods: We compiled results of a random digit dialing telephone survey and several multi-state case-control studies, pertaining to consumption of food outside the home as a risk factor for foodborne illnesses.

Results: Among 12,755 respondents to the 1998-1999 population survey, 83% said that they eat out at least once per week, and 16% ate out an average of 5 or more times per week. In a case-control study of *Salmonella* serotype Enteritidis with 182 cases enrolled, among persons with no recent international travel, consumption of chicken outside the home was associated with a matched odds ratio (mOR) of 2.1 (95% CI 1.2-3.4) and a population attributable risk of 25%. In a case-control study of *E. coli* O157:H7 with 200 cases enrolled, among persons consuming ground beef, eating a hamburger at a restaurant that was not part of a major fast-food chain was associated with a mOR of 10 (CI 1.3-82). In a case-control study of *Salmonella* serotype Heidelberg with 44 patients enrolled, illness was associated with eating eggs prepared outside the home (mOR=6.2, CI 1.2-31.7), particularly runny eggs (mOR=11.1, CI 1.22-63.1), with population attributable risks of 33% and 56%, respectively. In a case-control study of 64 persons with fluoroquinolone-resistant *Campylobacter*, among persons without recent international travel, illness was associated with eating chicken or turkey at a commercial establishment (mOR 4.3, CI 1.2-15).

Conclusions: Findings from a number of FoodNet case-control studies suggest that consumption of food outside the home is associated with increased risk of specific foodborne illnesses. Refining data on the period of exposure for common risk factors will be important in better understanding this issue. The CDC's Environmental Health Specialist Network (EHS-Net) is a new program developed to improve our understanding of environmental causes of illness. Its initial focus will be evaluating risk factors associated with eating outside the home. Given the numbers of persons eating in restaurants regularly, further study is warranted to better understand the nature of those risks.

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